

RELATEDNESS OF HUMAN INTERLEUKIN-1 β CONVERTASE GENE TO
A C. elegans CELL DEATH GENE, INHIBITORY PORTIONS OF
THESE GENES AND USES THEREFOR

Abstract of the Disclosure

5 Described herein is the discovery that human interleukin-1 β convertase
ICE) is structurally similar to the protein encoded by the *C. elegans* cell death
gene, *ced-3*. Comparative and mutational analyses of the two proteins, together
with previous observations, suggest that the Ced-3 protein may be a cysteine
protease like ICE and that ICE may be a human equivalent of the nematode cell
death gene. Another mammalian protein, the murine NEDD-2 protein, was also
10 found to be similar to Ced-3. The NEDD-2 gene is implicated in the development
of the murine central nervous system. On the basis of these findings, novel drugs
for enhancing or inhibiting the activity of ICE, *ced-3*, or related genes are
provided. Such drugs may be useful for treating inflammatory diseases and/or
15 diseases characterized by cell deaths, as well as cancers, autoimmune disorders,
infections, and hair growth and hair loss. Furthermore, such drugs may be useful
for controlling pests, parasites and genetically engineered organisms.
Furthermore, novel inhibitors of the activity of *ced-3*, ICE and related genes are
described which comprise portions of the genes or their encoded products.

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